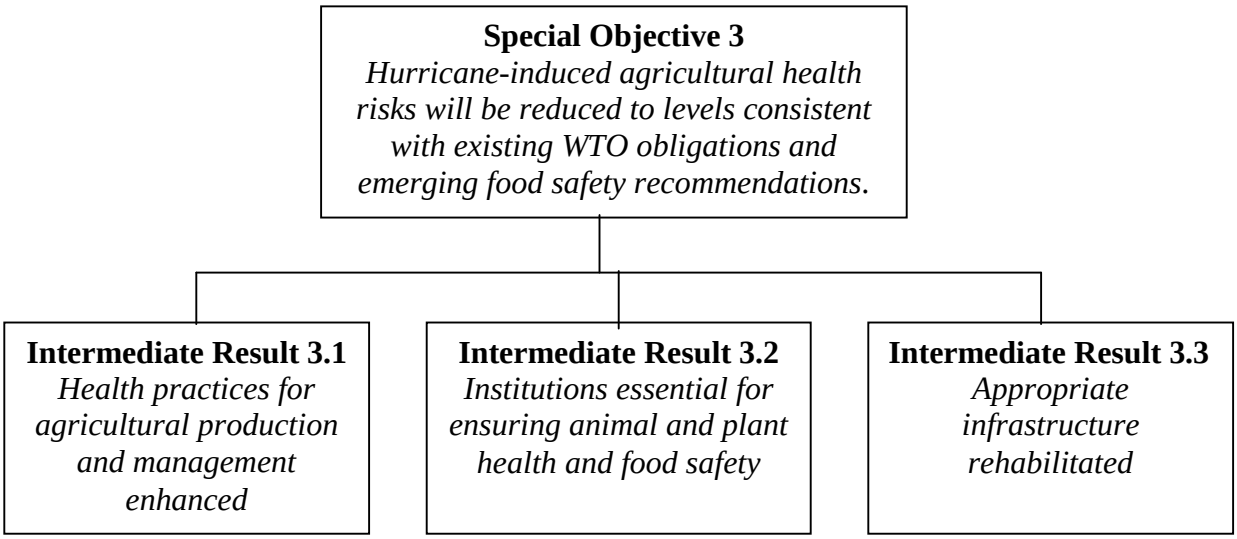
USDA Hurricane Mitch Recovery Program
Special Objective 3

Hurricane-induced agricultural health risks will be reduced to levels consistent with existing WTO obligations and emerging food safety recommendations.

SECTION I: EXECUTIVE SUMMARY

A. Program Objectives and Summary

Program activities for Special Objective 3 (SpO 3) targeted the areas of **livestock health, food safety, and phytosanitation** collectively referred to as **Sanitation and Phytosanitation (SPS**). These activities were developed in response to the situation assessment and problem analysis conducted at the onset of the USDA Hurricane Mitch Recovery Program. The SpO3 response consisted of three Intermediate Results (IRs) as reflected in the following framework:



Indicators for the achievement of SpO 3 were:

- Change in practices, human resources, or infrastructure that increase sanitation and phytosanitation status
- Number of new food products meeting health standards for export

IR 3.1 Enhance health practices for agriculture production and processing.

A principal barrier to achieving compliance with World Trade Organization (WTO) obligations was SPS practices by agricultural producers and processors. Knowledge and skills were not up to date with SPS requirements vis-à-vis world trade realities. In response, the activities launched under IR 3.1 were intended to enhance knowledge and skills necessary for meeting WTO obligations in agriculture sectors that represented the greatest potential for export. Seven projects were configured to collectively address IR3.1:

- Farm Level Food Safety/ Hazard Analysis Critical Control Points (HACCP) for Livestock Products (Honduras and Nicaragua)
- Best Management Practices for Shrimp Farming (Honduras and Nicaragua)
- Establish Medfly-Free Zones (Honduras and Nicaragua)
- Integrated Pest Management for Food Safety (Honduras and Nicaragua)
- Extension Practices Improved for Dairy Food Safety (Honduras and Nicaragua)
- Good Agricultural Practices for Food Safety (Honduras and Nicaragua)
- Pest Risk for Admissibility of Non-Traditional Crops (Honduras, Nicaragua, Guatemala, El Salvador)

The projects focused on critical practices in the agriculture sector that were identified as holding the greatest potential for advancing Special Objective-3.

IR 3.2 Strengthening of institutions essential for ensuring animal and plant health and food safety.

Governmental institutions needed assistance in establishing protocols, creating infrastructures for implementing regulations, and configuring frameworks for enforcing compliance. Farmer and processor cooperatives, private sector associations, and university programs needed assistance for modernizing technical assistance programs and marketing services to position the agriculture industry to recover from disasters such as Hurricane Mitch, and to reduce vulnerability to future disasters.

Professional training seminars were designed to equip government and institutional decision makers with updated knowledge about SPS protocols and regulatory procedures. Pest risk assessments provided information to enable government institutions to meet international SPS requirements, and to identify priorities for policy development. Direct technical assistance to dairy processors and governmental diagnostic laboratories strengthened quality control and surveillance functions for the implementation of modern SPS protocols.

Twelve projects were configured to collectively address IR 3.2. Focusing on agriculture sector institutions and organizations, governmental and non-governmental, the activities included:

- Training In Geographic Information Systems for Monitoring and Control of Livestock Pests (Honduras and Nicaragua)
- Epidemiological Field Surveillance for Livestock Diseases (Honduras and Nicaragua)
- Medfly-Free Zone Technical Advisory Committee for Policy Development and Implementation (Honduras and Nicaragua)
- Strengthening Diagnostic Laboratories for Shrimp Disease Management (Honduras and Nicaragua)
- Veterinary Education for Rural Women (Nicaragua)
- Assessment of Feasibility and Benefit of Pink Bollworm Eradication on Corn Islands (Nicaragua)
- Executive Leadership for Food Safety (Honduras)
- Institutional Strengthening for Dairy Food Safety (Honduras)
- Mitigation of Lethal Yellows Disease (LYD) in Coconuts (Honduras, Nicaragua, Guatemala, and El Salvador)
- Food Safety System Infrastructure Modernization (Antigua/Barbuda, St. Kitts, Nevis)
- Quarantine Systems Training for Policy Development and Implementation (Honduras, Guatemala, El Salvador and Nicaragua)
- Waterborne Disease Causes and Control in Food Systems--Training for Policy Development and Implementation (Honduras, Nicaragua, El Salvador, Guatemala)

IR 3.3 Rehabilitate physical infrastructure.

Weaknesses in physical infrastructure for laboratory diagnosis of diseases and monitoring of food safety status, and facilities for packing and cold storage of agricultural products prevented Honduras and Nicaragua from meeting WTO obligations for SPS. These particular barriers were addressed by the following four projects:

- Rehabilitation of Veterinary Laboratories (Honduras And Nicaragua)
- Design and Construction of Hydrothermic Mango Treatment Facility (Honduras)
- Modernization of Cold Storage Shipping/Receiving Facility at Managua Airport (Nicaragua)
- Construction of Vegetable Packing and Cold Storage Facility in Rivas (Nicaragua)

IR 3.3 activities also focused on institutions and organizations, governmental and non-governmental. It was expected that IR 3.3 activities would enable compliance with SPS obligations of WTO, resulting in export capability and enhanced markets for several products.

B. Funding Resources for Each Intermediate Result

IR 3.1 Enhance health practices for agriculture production and processing.

Budget: $2.38 million

Additional Resources Contributed by USDA
USDA technical expertise and field level infrastructure of the Foreign Agricultural Service and APHIS from programs independent of the Hurricane Mitch Recovery Program were utilized to add value to the HMRP effort.

Shortfalls/Additional Funding Needs
Funds are needed to support recurring expenses associated with technical outreach activities, and credit resources for farmers to procure necessary inputs to utilized fully their new knowledge and skills.

IR3.2 Strengthening of institutions essential for ensuring animal and plant health and food safety.

Budget: $1.33 million

Additional Resources Contributed by USDA
USDA technical expertise and field level infrastructure of the Foreign Agricultural Service and APHIS from programs independent of the Hurricane Mitch Recovery Program were utilized to add value to the HMRP effort.

Shortfalls/Additional Funding Needs
Resources are needed to support additional training, and professional collaboration for development and implementation of SPS protocols.

IR 3.3 Rehabilitate physical infrastructure

Budget: $1.56 million

Additional Resources Contributed by USDA
USDA technical expertise and field level infrastructure of the Foreign Agricultural Service and APHIS from programs independent of the Hurricane Mitch Recovery Program were utilized to add value to the HMRP effort.

Shortfalls/Additional Funding Needs
None

C. Key Accomplishments/Practical Impacts/Considerations

IR 3.1 Enhance health practices for agriculture production and processing.

Accomplishments/Practical Impacts

Producers of livestock, dairy products, shrimp, fruits, and vegetables acquired knowledge and skills that allowed them to implement new practices to improve the SPS status for their commodities. Government decision makers and regulators were equipped with updated knowledge and skills to enable diffusion of new technology to reverse the set backs of Hurricane Mitch, and reduce the vulnerability of the agriculture industry to future disasters.

The practical impacts of these accomplishments are several:

- Internationally recognized SPS certifications were achieved (cheese, shrimp, oriental vegetables, and beef).
- Pest risk assessments were completed for 12 non-traditional crops within 4 countries (28 country-commodity combinations).
- Mediterranean Fruit Fly (Medfly) free zone was established on Ometepe Island, Nicaragua, and the north coast of Honduras in the department of Atlantica.

Figure 1. Good agricultural practices for food safety; getting chives ready for market.

Overall, the SPS status of the agricultural industry in the Region was strengthened, degradations due to Hurricane Mitch reversed, vulnerability to future disasters reduced and capacity to recover enhanced. New commodities have gained entry into the export market, or had their market shares enhanced (cheese, oriental vegetables, and shrimp).

Additional Measures to Protect Investments/Recurring Costs

A second generation of training and field level technical mentoring would help secure advances under the Hurricane Mitch Recovery Program and ensure continued progress. Market development assistance is a key factor in maintaining the revenue needed to make continued use of the new technology economically rational.

On per farm basis, cost of maintaining new technology may range from less than $100/year per hectare to several times that much depending on the enterprise. This is a significant expense for farmers who net approximately $500 profit/hectare on revenue of $2000/hectare. Market access and sufficient commodity prices are critical factors of survival for the small and medium scale commercial farmers who operate one hectare or less utilizing family labor.

Other Activities to Consider to Mitigate Future Disasters

Field level technical assistance, strengthening of outreach infrastructure, marketing assistance programs, promotion of farmer associations and cooperatives for collective action, and expansion of credit resources for small loans would reduce the vulnerability of the agriculture sector to future disasters and enhance the capacity to recover when disruptions do occur.

IR 3.2 Strengthening of institutions essential for ensuring animal and plant health and food safety.

Accomplishments/ Practical Impacts

Government and institutional decision makers acquired new knowledge and skills about SPS protocols and regulatory procedures. Pest risk assessments provided information to enable government institutions to meet international SPS requirements, and to identify priorities for policy development. Direct technical assistance, for enhancing human capacity and implementing modern SPS protocols, to dairy processors and governmental diagnostic laboratories strengthened quality control and surveillance functions.

The benefits to the Region and targeted countries are substantial:

- The Honduran Secretariat of Agriculture has put into place a national diary food safety protocol, and established a Food Safety Unit for inspection and regulation.
- Policy development has advanced in the area of Phytosanitation in both Nicaragua and Honduras government entities.
- Regional multi-national organizations such as the Inter-American Institute for Cooperation in Agriculture (IICA), and the Regional Organization for Agricultural Health (OIRSA) have been able to promote new advances in SPS within the region.
- Harmonization of standards and regulations among the countries within the region has come a lot closer to reality.
- International recognition has been achieved for compliance with SPS obligations.
- New products have entered the export market (cheese) or had their market shares increased (oriental vegetables, shrimp).
- Diagnostic laboratories in Honduras and Nicaragua are better able to monitor SPS status of crops and livestock, protecting domestic enterprises and public safety as well as meeting international compliance for entry into export markets.

Figure 3. Sanitary cheese making in Honduras

Additional Measures to Protect Investments/Recurring Costs

Resources are needed to support additional training and professional collaboration for the development and implementation of SPS protocols. Costs for keeping SPS inspection and enforcement units in place, and expanding their support to new farmer and processor clients, would range from $50,000 to $100,000 per year in each country

The Honduran Secretariat of Agriculture has committed $500,000 for the Medfly-free zone activities in year 2002 to sustain the achievements of the Hurricane Mitch Recovery Program. Per year costs for maintaining and expanding the Medfly zone would be in this $500,000 range.

Laboratories would benefit from additional modernization of equipment, and training of laboratory professionals in its use. Support for maintaining equipment and inputs necessary for its utilization may vary from $5000 to $10,000 per year.

Other Activities to Consider to Mitigate Future Disasters

Development of SPS protocols, and their implementation and harmonization across the region, are needs that should be addressed as soon as possible.

IR 3.3 Rehabilitate physical infrastructure

Accomplishments/ Practical Impacts

In Honduras, a state-of-the-art hydrothermic mango treatment and packing facility was constructed for use by the Mango Producers Association. This facility brings the Honduran fresh market mango industry into compliance with USDA/APHIS Medfly control requirements, and opens the U. S. market for mango exports.

In Nicaragua, the cold storage facility at the Managua airport was expanded and modernized. The Nicaragua cold chain facility allows the country to comply with WTO food safety obligations, and expands the potential for import and export of agricultural commodities that have cold chain requirements.

In Riva, Nicaragua, a vegetable packing and cold storage facility was constructed, operated by the Nicaraguan Association of Producers and Exporters of Non-Traditional Products. The Rivas facility fills a gap in packing and cold chain facilities for producers in the corridor to the east of Lake Nicaragua. This facility also has the potential to service products from the Medfly-free zone that is being established on the island of Ometepe under a sister project in the USDA Hurricane Mitch Recovery Program.

Government SPS laboratories in Nicaragua and Honduras were modernized and staff trained in up-to-date procedures. The strengthened laboratory capabilities address international standards for compliance and certification of laboratory results to assure the SPS status of export products, as well as protecting domestic agriculture enterprises from pest outbreaks and protecting domestic public health.

USDA's tangible assistance in infrastructure rehabilitation has significantly impacted Nicaragua and Honduras. Specific long-term gains include:

- Fresh market mango has gained access to new export markets.
- Fruit packing capacity has been expanded to close the gap between production capacity and the ability to get the products to market.
- Cold storage facilities have enhanced trade by increasing quantity of products for both import and export.
- Laboratories are operating in compliance with internationally recognized standards, allowing certification of SPS status necessary to meet export requirements.
- Modernized laboratories help protect domestic agricultural industries against pest outbreaks, and guard public health against breaches in food safety.

Nicaragua and Honduras have been able to recover from the degradation of SPS status resulting from Hurricane Mitch. The changes that have taken place should reduce their vulnerability in the face of future disasters, and position them to recover more quickly from future disasters.

Figure 3. Government laboratory in Nicaragua was upgraded and supplied with new equipment to carry out food safety testing.

Additional Measures to Protect Investments/Recurring Costs

Assistance to growers to help them meet the quality standards required to be competitive in international markets will help assure that the packing enterprises have the volume of quality products necessary to remain economically viable. Continued modernization of laboratory facilities will bring them into full compliance with international standards, and better equip them to address domestic food safety interests.

Cold storage equipment, the hydrothermic treatment facility, vegetable packing operations, and modern laboratory equipment all require maintenance and up keep that can be expensive. Section II (Detailed Activities by Country and Regional) includes estimated maintenance costs for specific facilities and equipment.

Other Activities to Consider to Mitigate Future Disasters

Additional packing and cold storage facilities, designed in scale with production capacity, will be needed in the future to accommodate farming activities in remote areas and help comply with SPS realities of international trade. The need for modernization of laboratory facilities and protocols will continue as the SPS standards evolve and the agriculture industry matures in the region.

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SECTION III:
RECOMMENDATIONS FOR REDESIGNING SpO 3 PROGRAM ACTIVITIES

A. Redesign Considerations

The SpO3 Hurricane Mitch Recovery Program consisted of 23 projects, almost all of them deployed in two or more countries. At first look, this would appear to be an unwieldy portfolio. However, the management challenges not withstanding, the program portfolio contained the optimum mix of projects, and in the final analysis was configured in a way that resulted in considerable synergy. The initial array of project topics that came from the situation assessment was modified significantly as the program unfolded. This evolution of program design was important for being able to take advantage of opportunities that were not evident until later, and significant for rethinking some projects that were based on assumptions that proved to be flawed. A key lesson learned was that it is important to invest considerable time in a detailed problem analysis and project design, all the while gathering stakeholder input and shared ownership. The project activities get off to a somewhat slower start because of the thoughtful planning and building of stakeholder partnerships, but the program is on surer footing and delivers better results by the end.

B. Constraints

USDA rose to the occasion and dealt with all circumstances to neutralize all potential constraints through appropriate program management.

C. Other Comments or Recommendations

The USDA Sanitation and Phytosanitation (SPS) activities addressed disaster mitigation in ways quite different from the projects that focus on rehabilitation of land and physical infrastructure. Consequently, much of the impact of the SPS activities may be overlooked if it is viewed through the same lens as used for the physical rehab projects. The SPS projects built capacity to withstand future shocks in two ways:

1) by enhancing economic resilience (through international trade linkages and diversification of the domestic agribusiness sector)
2) by building a firewall that will reduce the potential for negative impact of natural disasters on public health (national food safety protocols, food safety inspection programs, modernization of private sector food processing facilities)

Design, management, and evaluation of the SPS projects is different in significant ways from other program areas. The Hurricane Mitch Recovery Program design and evaluation are shaped by the definition of "mitigation". Mitigation pertains to both the ability to absorb shocks with less damaging results (or perhaps even nullify them altogether) and the capacity to recovery quickly. For example, recognizing that a national food safety protocol, trained food safety laboratory personnel and improved equipment help prevent public health problems following a natural disaster may be more difficult than understanding how a fortified riverbank prevents flooding. It takes a different eye to recognize that pest monitoring and quarantine infrastructure fortifies international marketing linkages, which in turn provide the capital and the economic engine at the local level among farmers and agribusiness for a more speedy recovery following environmental disruptions. Time spent up-front defining "mitigation" will shape the lens through which the Hurricane Mitch activities are perceived; the idiosyncrasies of the SPS work must be captured in the working definition that emerges.

The language of the InterAgency agreement gives the impression that the focus is on the capacity of the national governments to deal with disasters in the future. Very little mention is made of local capacities— local governments, civil society, and local private enterprises. A significant portion of the SPS activities sought to strengthen local capacities to reduce or recover from future shocks. Equitable attention should be given to both levels.